



YD 1175

Air-cooled triode for industrial RF heating



27 kW triode for RF dielectric heating machines

Based on more than 60 years of experience in the design and manufacture of electron tubes, Thales is a long-standing partner to most producers of industrial heating machines. And we are the benchmark supplier of grid tubes.

The YD 1175 triode is intended for dielectric heating applications and delivers continuous RF power of 27 kW. It is especially well suited to industrial applications, such as plastic welding.

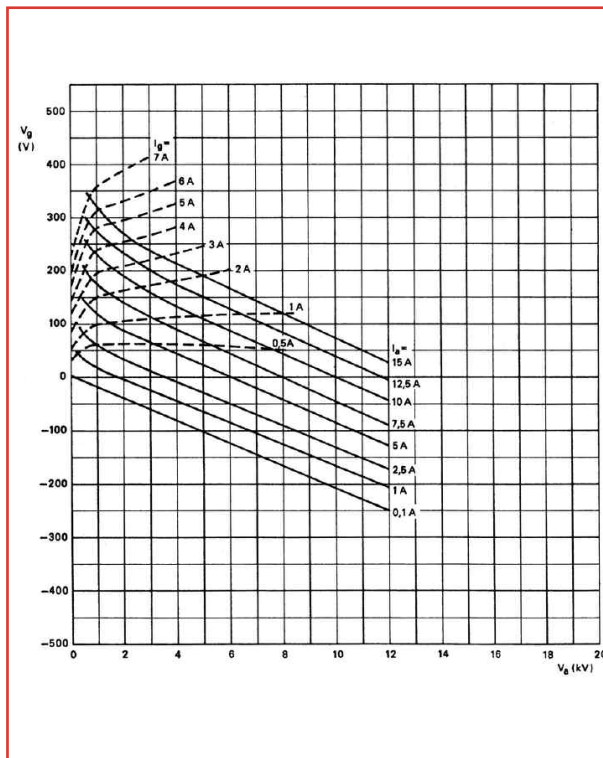
This air-cooled triode uses a coaxial design and metal-ceramic technology. It may be operated in CW or pulse modes. For operation in pulse mode, the parameters depend on each equipment characteristics. Contact us for specific information.

Thales is fully committed to the long-term viability of tube technology, and to delivering high-tech products based on our proven expertise in complex processes. We offer the widest range on the market, whether for dielectric or induction and laser applications, backed by all the customer support and technical assistance services you need.

- Output power: 27 kW (CW mode)
- Anode voltage: 12 kV
- Anode dissipation: 10 kW
- Frequency up to 120 MHz

Industrial RF Heating triode

Constant current characteristics



Technical specifications

Cathode	thoriated tungsten	
Filament voltage	5.8	V
Filament current	130	A
Max. heater surge current	800	A
Amplification factor	45	
Capacitance		
• grid-anode	17	pF
• grid-cathode	47	pF
• cathode-anode	0.4	pF

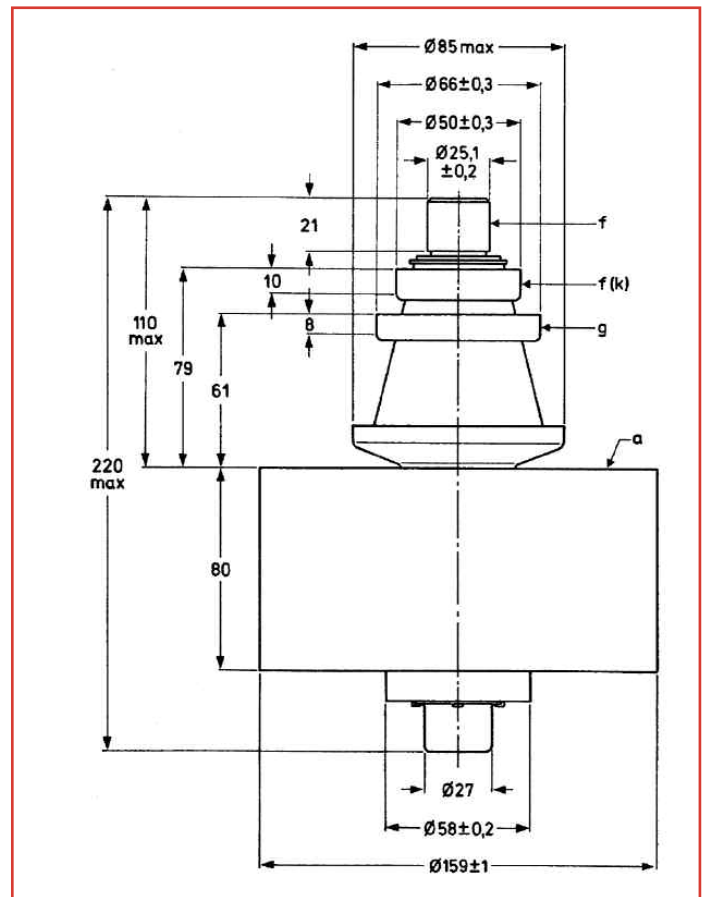
Mechanical characteristics

Operating position	vertical	
Weight	7.5	kg
Dimensions	159 x 220	mm

Cooling characteristics (air-cooling)

Max. air temperature at tube inlet	45 °C
Min. air flow cooling (for $P_a + P_g=10$ kW)	9.5 m ³ /min
Corresponding air pressure drop	0.55 mbar
Max. T° at any point on the tube envelop	240 °C

Outline drawing (in mm)



Maximum ratings

Frequency	120	MHz
Anode DC voltage	12	kV
Grid DC voltage	-1500	V
Anode DC current	4	A
Grid DC current, at full load	1.1	A
Grid DC current, at no load	1.6	A
Peak cathode current	25	A
Anode dissipation	10	kW
Grid dissipation	350	W
Grid resistance (tube non conducting)	10	kΩ

Class C, RF oscillator for industrial applications

Frequency	30	30	30	MHz
Anode DC voltage	6	8	10	kV
Grid DC voltage	-300	-400	-500	V
Anode DC current	3.6	3.6	3.4	A
Grid DC current, on load	1.0	1.0	0.9	A
Anode input power	21.6	28.8	34.0	kW
Anode output power	15.6	22.0	26.5	kW
Anode dissipation	5.4	6.1	6.8	kW
Grid dissipation	290	290	240	W
Grid resistance	300	400	560	Ω
Feedback ratio	12	10	9	%
Oscillator efficiency	72.2	76.3	78	%

Operations at higher frequencies available on request.

For more technical information regarding this tube, feel free to ask our distributor Richardson Electronics - www.rell.com

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1855/2013 UB - Great photos. Inales